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(71) Applicant: **GENNUM CORPORATION**  
**Burlington,**  
**Ontario L7L 5P5 (CA)**

(72) Inventors:  
• **Sykes, Frederick E.**  
**Burlington, Ontario L7N 1G4 (CA)**  
• **Mitchler, Dennis W.**  
**Kanata, Ontario K2T 1G6 (CA)**  
• **Zhang, Diana**  
**Burlington, Ontario, L7L 6S6 (CA)**

(74) Representative: **Jones Day**  
**Rechtsanwälte, Attorneys-at-Law, Patentanwälte**  
**Prinzregentenstrasse 11**  
**80538 München (DE)**

(54) **Hearing instrument having a wireless base unit**

(57) In accordance with the teachings described herein, systems and methods are provided for a hearing instrument having a wireless base unit. The base unit may include one or more microphones for generating an audio signal and communications circuitry for wirelessly transmitting the audio signal to the hearing instrument. The hearing instrument may include communications cir-

cuitry for receiving the audio signal from the base unit, and may further include a processing device operable to process the audio signal to compensate for a hearing impairment of a hearing instrument user and a speaker for transmitting the processed audio signal into an ear canal of the hearing instrument user. The base unit may be positioned to receive audio signals at a distance from the hearing instrument user.

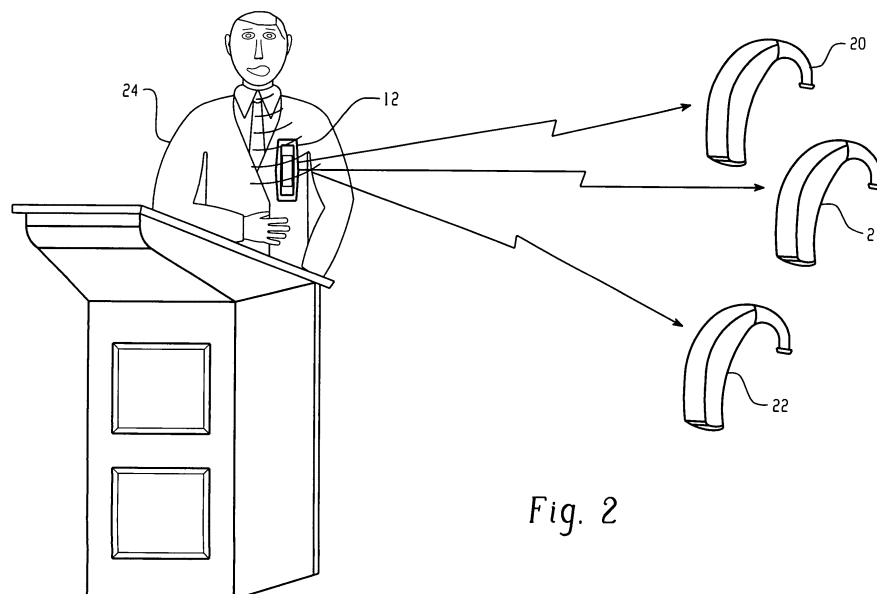


Fig. 2



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# EUROPEAN SEARCH REPORT

Application Number  
EP 04 02 7011

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	GB 1 565 701 A (WENTWORTH JESSOP J) 23 April 1980 (1980-04-23) * page 1, line 83 - page 2, line 68; figure 1 *	1-9, 13-23	INV. H04R25/00 H04Q7/32
Y	WO 98/56106 A (AUDIOLOGICAL ENGINEERING CORP [US]; FRANKLIN DAVID [US]; STEELE MICHAEL) 10 December 1998 (1998-12-10) * page 7, line 7 - page 13, line 29; figures 1,2 *	1-9, 13-23	
Y	DAVIS D S: "UTILIZING AMPLIFICATION DEVICES IN THE REGULAR CLASSROOM" HEARING INSTRUMENTS, HARCOURT BRACE JOVANOVIH PUBL. DULUTH, MINNESOTA, US, vol. 42, no. 7, 1 July 1991 (1991-07-01), pages 18-23, XP000244356 ISSN: 0092-4466 * page 18, left-hand column, paragraph 2 - page 19, middle column, paragraph 6 *	7-9	
A	US 5 737 430 A (WIDROW BERNARD [US]) 7 April 1998 (1998-04-07) * the whole document *	20	TECHNICAL FIELDS SEARCHED (IPC) G09B H04L H04Q H04R
<p><del>The present search report has been drawn up for all claims</del></p>			
Place of search <b>Munich</b>		Date of completion of the search <b>6 March 2008</b>	Examiner <b>Nieuwenhuis, Pieter</b>
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... &amp; : member of the same patent family, corresponding document</p>			

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EPO FORM 1503 03.82 (P04C01)



European Patent  
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Application Number

EP 04 02 7011

### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:
- 1-9, 13-25
- ☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-9,13-25

Independent claim 1 relates to a wireless hearing instrument system, comprising:  
a base unit including one or more microphones for generating an audio signal and including communications circuitry for wirelessly transmitting the audio signal;  
a hearing instrument including communications circuitry for receiving the audio signal from the base unit, the hearing instrument being operable to process the audio signal to compensate for a hearing impairment of a hearing instrument user and to transmit the processed audio signal into an ear canal of the hearing instrument user; and  
a clear channel selection program executed by a processor in the wireless hearing instrument system and operable to automatically select a communication channel from a range of available frequencies for transmitting the audio signal from the base unit to the hearing instrument.

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2. claims: 10-12,26-31

Independent claim 26 relates to a wireless hearing instrument system, comprising:  
a base unit including one or more audio inputs for receiving a stereo audio signal and including communications circuitry for wirelessly transmitting the stereo audio signal; and  
a pair of hearing instruments that include communications circuitry for receiving the stereo audio signal from the base unit, at least one of the hearing instruments being operable to process the stereo audio signal to compensate for a hearing impairment of a hearing instrument user;  
the base unit being operable to transmit the stereo audio signal over two frequency channels, wherein one frequency channel is used to transmit a first portion of the stereo audio signal to a first one of the hearing instruments and another frequency channel is used to transmit a second portion of the stereo audio signal to a second one of the hearing instruments.  
Claim 10 which depends via claim 7 on claim 1 further specifies that a second hearing instrument is provided [claim 7] and that the base unit is operable to transmit a stereo audio signal to both hearing instruments.

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 02 7011

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

06-03-2008

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 1565701	A	23-04-1980	NONE	
WO 9856106	A	10-12-1998	AU 7712198 A CA 2292535 A1	21-12-1998 10-12-1998
US 5737430	A	07-04-1998	NONE	